## **Context Free Grammar for Regular Expression Language**

```
<regex> $$ | '^'<regex> $$ | <regex>'$' $$ | '^'<regex>'$' $$
   <regex> :=
                      <term><term_tail> | \epsilon
 <term_tail> :=
                      '|'<regex> | ε
     <term> :=
                     <factor><factor_tail>
<factor tail> :=
                     <factor><factor tail> \mid \epsilon
    <factor>
                     <base_tail>
              :=
 <base_tail> :=
                     <rep_op><base_tail> | \epsilon
     <base> :=
                    <character> | <charset> | '('<regex>')'
 <character> :=
                     <ordchar> | <escchar> | '.'
   <charset> :=
                    '['<text><text_tail>']' | '[''^'<text><text_tail>']'
 <text_tail> :=
                     <text><text_tail> | ε
     <text> :=
                     <character> | <charset>
    <rep_op> :=
                     * | + | ?
```

## LL(1) Parse Table

	ORDCHAR(1)	ESCCHAR(2)	.(3)	^(4)	\$(5)	[(6)	](7)	((8)	)(9)	<b> (10)</b>	*(11)	+(12)	?(13)	\$\$(14)
PROGRAM	٧	٧	٧	٧	٧	٧		٧						٧
REGEX	٧	٧	٧		٧	٧		٧						٧
TERM_TAIL					٧				٧	٧				٧
TERM	٧	٧	٧			٧		٧						
FACTOR_TAIL	٧	٧	٧		٧	٧		٧	٧	٧				٧
FACTOR	٧	٧	٧			٧		٧						
BASE_TAIL	٧	٧	٧		٧	٧		٧	٧	٧	٧	٧	٧	٧
BASE	٧	٧	٧			٧		٧						
CHARACTER	٧	٧	٧											
CHARSET						٧								
TEXT_TAIL	٧	٧	٧			٧	٧							
TEXT	٧	٧	٧			٧								
REP_OP											٧	٧	٧	